

Remarks/Arguments

1. Prior to the referenced Office action, claims 1, 2, 4-26 were pending. In the referenced Office action, claims 1, 2, 4-15 and 23-26 were rejected, and claims 16-22 were allowed.

In the present amendment/reply, claims 1, 12 and 23 are currently amended; claims 1, 2, 4-26 are pending

2. Examiner's response to Applicant's arguments filed 9/22/2005 (section 3 of Office action)

On Pages 2-3 of the referenced Office action, the Examiner responds to Applicant's arguments filed 9/22/2005 as follows:

"The applicant has argued against the '592 patent stating the patent fails to teach of "at least one outlet mounted on the stator and projecting into the gallery for injecting the coating material into the at least one gallery", wherein "the at least one gallery [is] internal to the rotor". The examiner respectfully disagrees. '592 teaches of providing an outlet which comprises the interface between the chamber (15) and the pipe (17), such an outlet is projecting into the gallery, i.e. the orifice is aimed to project into the chamber (15). The interface between (15) and (17) is mounted on the stator, wherein the rotating portion of chamber (15) is a gallery internal to the rotor.

The applicant has argued the outlet projects into the gallery so that the seal and the space that the seal occupies, in contrast to the prior art, is not in direct path of the coating material. The applicant argues such an arrangement results in less escape of the coating material. However such arguments are not commensurate in scope with the claims, where the claims as written do not require such a limitation."

The Applicant refers to page 4, line 13, through page 5, line 17, of the '592 patent:

"With reference to the drawings, a coating apparatus 1 comprises a support frame 3, a rotary frame 5 and at least one powder delivery/spray head 7 (*note that spray head is identified in FIG. 1 as element number 1*), of which there are two shown in Figure 1. The support frame 3 includes two open space frames 9 joined together by location bars 11 extending parallel to the axis of the openings 12 in the space frames 9. The openings 12 in the space frames 9 are aligned so that a pipe or other article can pass through the coating apparatus 1.

Mounted on the location bars 11 is an annular body 13 defining an opening for receiving the rotary frame 5. The annular body 13 has a number of enlarged supply ports 15 defined therein which communicate with external pipes 17 supplying powdered F.B.E. to the coating apparatus. The number of supply ports 15 and supply pipes 17 depends upon the size of the apparatus, which can be designed to accommodate pipes having diameters from 3 inches (7.6 centimetres) to 64 inches (163 centimetres) or more. Although a plurality of separate supply ports 15 are preferably provided in the preferred coating apparatus, a single annular supply port or chamber could be incorporated in the body portion 13 of the support frame 3, if desired.

The space frames 9 carry a plurality of rollers 19, extending inwardly from the space frames 9, which engage bearing surfaces 21 of the rotary frame 5. As a result, the rotary frame 5 is supported on either side by the rollers 19 and is free to rotate about the central axis of the coating apparatus 1 as the bearing surfaces 21 pass over the rollers 19. More particularly, the bearing surfaces 21 are grooves formed in the surface of the rotary frame 5, thereby securing the rotary frame 5 in position within the support frame 3 (as shown in Figure 2).

The rotary frame 5 is formed in two parts which, when assembled, are joined by means of

screws 23 or any other suitable fixing means. As a result, assembly of the apparatus 1 is simplified.

The rotary frame 5 includes a plurality of radial ducts 25 opposing the supply ports 15 of the support frame 3. As a result, powdered F.B.E. supplied to the coating apparatus 1 accumulates in the chambers formed by the supply ports 15 and the radial ducts 25 before reaching the spray heads 7 for delivery to the surface of a pipeline extending through the coating apparatus 1." (underlining and text in italics added)

Therefore, in the '592 apparatus, annular body 13 forms the stator and rotary frame 5 forms the rotor. The number of enlarged supply ports are in the annular body 13 (stator) ('592 page 4, line 24), and external pipes 17 supply powder to the supply ports (page 4, lines 25 and 26). '592 alternatively teaches "a single annular support or chamber could be incorporated in the body portion 13 (*i.e. stator*) of the support frame 3, if desired." (page 4, lines 32-35; underlined text in italics added). In the '592 apparatus "[t]he rotary frame 5 (*i.e. rotor*) includes a plurality of radial ducts 25 opposing the supply ports 15 of the support frame 3." (page 5, lines 11 and 12; underlined text in italics added). Spray heads 7 are attached to these radial ducts. Therefore '592 teaches "a single annular chamber" in the stator that contains powder supplied from external pipes 17. A "plurality of radial ducts" are in the rotor and "oppose" the "supply ports" or "single annular chamber" in the stator. Applicant contrasts the '592 apparatus with currently amended claim 1, wherein the "at least one gallery extending substantially around the axis, the at least one gallery internal to the rotor" and "at least one outlet mounted on the stator and protruding laterally into the at least one gallery for injecting the coating material into the at least one gallery". Therefore in claim 1 the gallery (chamber) is enclosed internal to the rotor and rotating with the rotor, with lateral insertion of powder into the gallery, whereas the '592 chamber is formed in the stator and stationary, with radial insertion of powder into the chamber. In claim 1 powder is transferred from the rotating gallery to the at least one coating head, whereas the '592 plurality of radial ports in the rotor receive powder from the stationary chamber in the rotor. At least in part, it is placement of the gallery within the rotating element, and lateral penetration into the gallery by the at least one outlet mounted on the stator that results in the improvement over the teaching of the '592 patent, which requires radial seals 27.

On Page 3 of the referenced Office action, the Examiner responds to Applicant's

arguments filed 9/22/2005 as follows:

"The applicant has argued against the '592 reference stating the reference does not teach "at least one intake chamber within a substantially annular-shaped body surrounding the pipe". The examiner respectfully disagrees. '592 discloses an intake pipe (17) located within the stationary annular shaped body surrounding the pipe, while a portion of the pipe is outside of the annular body, a portion of the pipe is within the annular body and therefore reads on the claim as written, wherein the portion within the annular body is read as the intake chamber.

Claim 23 is currently amended to recite "an at least one intake chamber forming an arc-shaped path relative to the exterior surface of the pipe within a substantially annular-shaped, unitary body".

On Page 3 of the referenced Office action, the Examiner responds to Applicant's arguments filed 9/22/2005 as follows:

"The applicant has argued against the '592 reference stating the reference does not teach "a compression chamber substantially surrounding the exterior of the pipe". The examiner respectfully disagrees. '592 explicitly discloses chamber 15 may be a single annular body surrounding the pipe and it is the examiners position that such a annularly shaped body inherently results in compressing the coating material."

Claim 23 is currently amended to recite "compressing the coating material received from the at least one intake chamber in a compression chamber substantially surrounding the exterior of the pipe within the substantially annular-shaped, unitary body".

On Pages 3 and 4 of the referenced Office action, the Examiner responds to Applicant's arguments filed 9/22/2005 as follows:

"The applicant has argued against the '592 reference stating the reference does not teach a diffusion chamber substantially surrounding the exterior of the pipe. However, the examiner respectfully disagrees. '592 explicitly teaches of providing a number of diffusion chambers (25) around the outside of the pipe. It is the examiners position that the plurality of chambers (25) "substantially" surrounds the exterior of the pipe and the claim as written does not require the diffusing chamber arranged annularly around the exterior as argued."

Claim 23 is currently amended to recite "diffusing the coating material exiting the compression chamber in an at least one diffusing chamber arranged annularly around the exterior of the pipe and substantially surrounding the exterior of the pipe within the substantially annular-shaped, unitary body."

On Page 4 of the referenced Office action, the Examiner responds to Applicant's arguments filed 9/22/2005 as follows:

" The applicant has argued against the '592 reference stating the reference teaches of a significant different sealing means as claimed in claim 4. The examiner respectfully disagrees. Claim 4, as amended, only requires a sealing means "between" a gallery and an outlet mounted on a stator. '592 teaches of providing a seal located "between" the outlet and the gallery, see figures 1 and 2.

Claim 4 is dependent on claim 1, which is currently amended to recite "at least one outlet mounted on the stator and protruding laterally into the at least one gallery for injecting the coating material into the at least one gallery."

3. Rejection of claims 1, 6-10, 12, 14, 23 and 25 as being obvious over UK Patent Application 2285592 ('592) in view of "Sprays" by Kirk-Othmer (section 6 of Office action)

Claims 1, 6-10, 12, 14, 23 and 25 were rejected as being obvious over '592, in view of "Sprays" by Kirk-Othmer. Applicant incorporates by reference Applicant's arguments from the reply dated 9/22/2005 on pages 11 to 14 of said reply, relative to the same rejection of claims 1, 6-10, 12, 14, 23 and 25. Further Applicant refers to arguments in section 2 above relative to currently amended claims. In light of the current amendments and arguments, as further supported by the previously submitted arguments, Applicant submits that claims 1, 6-10, 12, 14, 23 and 25 are not obvious over '592, in view of "Sprays" by Kirk-Othmer.

4. Rejection of claims 2 and 4-5 as being unpatentable over '592 in view of "Sprays" by Kirk-Othmer, and further in view of "Coating processes" by Kirk-Othmer (section 7 of Office action)

Claims 2, 4 and 5 are directly or indirectly dependent on claim 1. Applicant incorporates by reference Applicant's arguments from the reply dated 9/22/2005 on pages 14 and 15 of said reply relative to the same rejection of claims 2 and 4-5. Further Applicant refers to arguments in section 2 above relative to currently amended claim 1. In light of the current amendments and arguments, as further supported by the previously submitted arguments, Applicant submits that claims 2, 4 and 5 are not obvious over '592 in view of "Sprays" by Kirk-Othmer, and further in view of "Coating processes" by Kirk-Othmer.

5. Rejection of claim 11 as being unpatentable over '592 in view of "Sprays" by Kirk-Othmer, and further in view of US Patent 4595607 by Betteridge et al. ('607) (section 8 of Office action)

Claim 11 is directly dependent on claim 1. Applicant incorporates by reference Applicant's arguments from the reply dated 9/22/2005 on pages 15 and 16 of said reply relative to the same rejection of claim 11. Further Applicant refers to arguments in section 2 above relative to currently amended claim 1. In light of the current amendments and arguments, as further supported by the previously submitted arguments, Applicant submits that claim 11 is not obvious over '592 in view of "Sprays" by Kirk-Othmer and '607.

6. Rejection of claims 13 and 24 as being unpatentable over '592 in view of "Sprays" by Kirk-Othmer, and further in view of US Patent 5191740 by Rose ('740) (section 9 of Office action)

Claim 13 is dependent on claim 12, and claim 24 is dependent on claim 23. Applicant incorporates by reference Applicant's arguments from the reply dated 9/22/2005 on pages 16 and 17 of said reply relative to the same rejection of claims 13 and 24. Further Applicant refers to arguments in section 2 above relative to currently amended claims 12 and 23. In light of the current amendments and arguments, as further supported by the previously submitted arguments, Applicant submits that claims 13 and 24 are not obvious over '592 in view of "Sprays" by Kirk-Othmer and '740.

7. Rejection of claims 15 and 26 as being unpatentable over '592 in view of "Sprays" by Kirk-Othmer, and further in view of US Patent 5026451 by Trzeciecki et al. ('451) (section 10 of Office action)

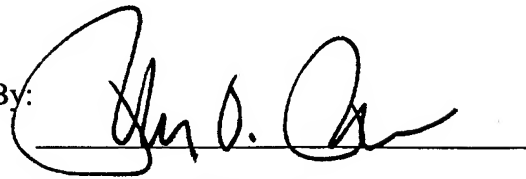
Claim 15 is dependent on claim 12 and claim 26 is dependent on claim 23. Applicant incorporates by reference Applicant's arguments from the reply dated 9/22/2005 on pages 16 and 17 of said reply relative to the same rejection of claims 15 and 26. Further Applicant refers to arguments in section 2 above relative to currently amended claims 12 and 23. In light of the current amendments and arguments, as further supported by the previously submitted arguments, Applicant submits that claims 13 and 24 are not obvious over '592 in view of "Sprays" by Kirk-Othmer and '451.

Applicant respectfully requests allowance of all pending claims.

Respectfully submitted,

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By:

A handwritten signature in black ink, appearing to read "Philip O. Post", is written over a horizontal line.

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